A NEW NIAGARA BRIDGE.

THE SECOND STEEL STRUCTURE WHICH WILL SPAN THE GORGE.

The last of the great suspension bridges across the Niagara gorge is about to be taken down, and workmen are now busy preparing for the erection of a second steel arch to span the chasm, where for many years the suspension type of bridges held undisputed sway. The final structure to be removed is the bridge close to the State reservation and falls. It has the longest span of all the Niagara bridges, and the arch that is to replace it will be one of the most notable structures of its class in the world. With the construction of this second arch this style of bridge will share with the cantilever the honor and credit of transporting all travel across the gorge, while it will also define a most wonderful advancement in bridge building.

The proposed arch especially referred to will be the fourth bridge to be erected on the site. Connection between the cliffs at this point was made by carrying a rope across the river on an eye bridge, and this rope aided in stringing heavier ropes and cables. The first bridge erected on this site was a wooden structure. It was thrown open to the public on January 2, 1869. The towers, as originally constructed, consisted of 12x12 inch timbers, each leg consisting of four such timbers, sixteen of them being grouped together under the saddle-plate for the support of the cables. In 1887 the wooden structure was renewed in steel, as were also the towers. In doing this the bridge was widened so that carriages could pass on it, the original bridge having been only wide enough for one carriage to cross in one direction at a time. This narrow passage led to many long waits, which at a place like Niagara were many times annoying to travellers.

DISLODGED BY WIND.

The work of rebuilding the bridge in steel was completed on December 15, 1888. On the night of January 9-10, 1889, the Niagara locality was visited by a terribly fierce gale, which swept the new bridge from its suspenders, and it dropped bottom upward in the gorge. A portion of it fell on the debris slopes of the banks, and was removed, but the greater portion still lies hidden beneath the waters of the river, out of sight but not out of the memories of those who recall the disaster which wrecked the great bridge before it was a month old. Within forty-eight hours after the storm the directors had awarded contracts for rebuilding the bridge. Work was begun on March 22, 1889, and on May 7 of the same year travel was reopened over the new bridge.

It is this structure that is now to give way to the new arch. When it was rebuilt the bridge companies felt that they were erecting a structure that would outlast their days and afford ample accommodations for years to come. The demands of travel have given birth to new ideas about the Falls, and the development, owing to the growth of the electric railways, has been a material factor in making the bridge companies realize that the facilities of the suspension bridge are not up to date. On each side of the gorge the trolleys have good patronage and an international connection is needed so that visitors to the Falls may travel along both sides without changing cars. To provide such facilities the new arch of the Grand Trunk Railway completed about two months ago has been furnished with a trolley track on its lower deck, and the arch to be built two miles further up stream will have a double track for electric cars.

ABUTMENTS OF THE ARCH.

The abutments for the arch have been built for over a year. They are four in number, and stand close to the water's edge on either side of the river. Each abutment will support one leg of the bridge. In preparing for their construction the accumulated rock and loose dirt of the banks were excavated by hydraulic means until a solid rock foundation was reached. On this foundation of rock a concrete foundation was built. In this concrete portion of the abutments four three-inch wrought-iron anchor bolts or rods twenty-one and a half feet long were sunk, each rod extending ten feet beyond the surface of the concrete. In addition to these rods four other rods of the same material and size were passed through the stonework of the abutments, making in all, eight anchor bolts in each abutment, the end of each one extending about one foot beyond the coping stones to afford an anchorage for the anchor, or bedplates. The total weight of the rods in the abutments is 9,910 pounds, while thirty-two washers, countersunk in the concrete, weigh 3,536 pounds. The abutments are magnificent samples of rough ashlar masonry, the stones used weighing from two to six tons each.

From cliff to cliff at the point where the bridge will stand the distance is 1,268 feet, and the span proper of the arch will be about 840 feet. In width it will be a little over forty-nine feet, the present structure being only seventeen and one-half feet. It will be of the single-deck pattern, and about twenty-three feet of the centre will be devoted to trolley tracks, while carriageways will be on each side, beyond which will be elevated walks for pedestrians. The centre of the Canadian end will rest on the exact centre of the present suspension bridge, but on the New-York side it has been found necessary to carry the centre a little to the south in order that the foundation of the abutments may avoid the portal of the Niagara Falls Power Company's tunnel on the slope below.

Situated as this great arch will be, close to one of the natural wonders of the World, it is destined, no doubt, to attract much attention, not only while in building, but in its finished state. At the Canadian end is the Queen Victoria Niagara Falls Free Park, while at the American end is the New-York State reservation. Thus it will afford bridge connections between these two great free parks, which are visited by many thousands of people every year. When completed it will add another notable attraction to the Niagara gorge, for, as stated, it will outrival all existing steel arches in the world, the following being the location and dimensions of some of the most notable:

	Span.	Rise.
Louis I, Oporto, Portugal	566	146
New Grand Trunk Arch, Niagara	550	114
Garabit, France	543	176
Dia Maria, Portugal	525	121
Eads's, St. Louis	520	47
Washington Bridge, New-York	510	91.7
Fodesmo, Italy	492	125
Rochester (N. Y.) Driving Park	428	67

The method of construction will be very similar to that employed this summer in the building of the first new arch across the Niagara gorge—that is, by means of false work and huge travelling derricks. The steel will be erected from the ends simultaneously, the last panel being placed in the centre.

In connection with this it is interesting to note that the suspension bridge when taken down will be rebuilt across the gorge at Lewiston, on the site of the bridge destroyed by a windstorm on April 16, 1864, and which was never rebuilt, having since remained a grand old wreck, attracting the attention of tourists. The destruction of this bridge has gone down in the annals of history as due to carelessness. A short time before it was ruined a large amount of ice gorged about the anchorages of the guys, which were loosened, so that they would not be carried away when the ice moved. Pleasant weather following, the loose guys were overlooked, and when a windstorm swept down the gorge it carried away the bridge.

THE PROPOSED NEW BRIDGE AT NIAGARA FALLS.

IN A YELLOW FEVER EPIDEMIC.

A TRIP THROUGH THE SOUTH DURING THE TERRIBLE DAYS OF 1878.

From The Milwaukee Sentinel.

One who has travelled through the South during the prevalence of a yellow fever epidemic is apt to have experiences which he will not readily forget. I retain vivid recollections of a trip I made over the Illinois Central Railroad from New-Orleans to Memphis, Tenn., during the awful epidemic of 1878, when the fever raged in every town along the line and people were dying so fast that the disposal of their bodies was a trying problem. Traffic, of course, was demoralized, and if I remember correctly there was only one passenger train daily out from New-Orleans. The train which carried the gentleman whom I accompanied and me moved along at the provoking rate of twelve miles an hour, being under orders not to go faster. Marks of the devastating epidemic were to be seen on every hand. At intervals of a few miles were found quarantine camps, where men in their shirt sleeves and with shot guns on their shoulders paced up and down defined lines, while a little further on would be a huge column of smoke rising from a fire fed on bedding, clothing and other infected materials. Our train sped through the towns without stopping and in spite of intense heat the car windows were lowered as we went through the fever-stricken communities in order to lessen the danger of coming in contact with germs.

We were to stop at Holly Springs, Miss., on our way to Memphis. We reached that little town, where the fever was particularly bad, in the early morning, and after carrying us three miles beyond the depot the conductor stopped the train and put us off in the woods. We walked back to the city over the railroad track and experienced the novelty of walking over a high trestle about a mile long. This in the early morning, on an empty stomach, was not a particularly pleasing diversion. In Holly Springs we found that about 50 per cent of the population, normally, I think, about 5,000, had fled at the first sound of alarm, the greater part of those who remained had died and most of the others were taking their meals at the one hotel which remained open. All business was at a standstill, shops and stores of every description had been deserted, and supplies of food, medicine and clothing were distributed daily by a committee whose duty was to see that nobody suffered for want of the necessities of life. At the hotel we were cordially greeted and told that we were the only outsiders who had come into the city for several weeks. The town at that time was pretty nearly cut off from communication with the world. The one telegraph operator, who had stuck to his post heroically day and night for weeks, was about to succumb, and it was impossible to get a man to come and relieve him. Six operators who had preceded him during the epidemic had died one after the other, and it was a difficult matter to find volunteers to face what seemed to be almost certain death.

I heard of one rather pathetic incident which developed during the Holly Springs epidemic. One of the most active workers on the Citizens' Relief Committee was a well-known lawyer, who spent the day and night ministering to the needs of his fellow-townsmen. One day he became involved in an argument with another worker, a physician, which became so strong that a challenge to a duel was issued and accepted. It was mutually agreed, however, that it was not a proper time for duelling, and it was understood that the men should fight with pistols as soon as the epidemic was over. This programme would probably have been carried out but for the intervention of Providence. A few days later the lawyer was attacked with yellow fever. His temperature rose fearfully, and within three days he was dead. He knew that death had claimed him, and his last words to those around him were: "Bury me quick." He realized that delay in burying corpses assisted the spread of the disease.

Arriving in the stricken city of Memphis, we found the pall of fever covering a community of about one-third the normal population. All who could do so had gone North at the first alarm, and of those who remained only a few escaped the ravages of the plague. Business was suspended and business houses were closed. The supplies necessary for the sick and their nurses were sent in from other cities and arrived by the carload daily. These supplies were distributed to relief depots opened in various quarters of the city, and were given out upon requisitions signed by physicians and members of the Relief Committee. The doctors and nurses sent in from other cities were entertained at the Peabody Hotel at the expense of the city, and one could start from the hotel and walk for miles without meeting any one but a physician hurrying from patient to patient, or the drivers of express wagons loaded with corpses in rough pine boxes being driven to the common burying ground. This burying ground was an old cotton patch in the suburbs of the city, and here the corpses were deposited in long trenches dug to a depth of six feet and covered over without any attempt at the regulation mound. The important object was to get the bodies under ground as quickly as possible, and delay was often occasioned because of inability to secure men to dig graves. The corpse-laden wagons made a constant procession from the fever hospitals, and the coffin, emblematic of the city's distress, was to be encountered at every turn. At one time during the epidemic there was a meat famine, and for a fortnight the only meat eaten by guests at the Peabody was chicken. The demand for quinine, a staple remedy in fever epidemics, was so great that the price went up to $16 an ounce.

After a few weeks in Memphis I was again on the Gulf coast, where the fever raged. As an illustration of the fright with which the disease paralyzes communities, the story of the death of a young man, Odum by name, is timely. His father was the publisher of a weekly paper at Handsborough, Miss., and when the fever was announced in that town he moved his family, type, press, etc., to a house about four miles away in the pine woods. The son was stricken down a few days later, and all the other members of the family were taken down very quickly. I was called in to look after the boy, a former schoolmate, and saw him die within twenty-four hours. The next thing was to get a grave dug, which proved a matter of considerable difficulty, as the men who usually could be depended upon to do such work refused to go anywhere near a fever-stricken household, contending that they would get the fever soon enough without going to it. Finally, after visiting Handsborough and Biloxi, the services of two colored men were secured, one of whom had had the fever and was a professional nurse. The other man consented to act as gravedigger on condition that he be permitted to retire to a safe distance before the corpse was brought to the grave, and that the coffin be covered to a depth of two feet before he be required to resume. The gravediggers did their work by the light of lanterns, and about midnight the body was placed in a pine box by the nurse and the writer. The mother crawled from her sickbed in an adjoining room to take a last look at her boy, and she herself was carried to her grave a few days later. The pine box was put on a cart, and a lantern lighted the way to the grave. The old colored gravedigger retired several hundred yards away as the corpse approached, and when several feet of earth had been thrown into the grave he was summoned by a whistle. He got $5 for his night's work. This is one of many incidents of a similar character which accompany a yellow fever epidemic.

PROSPERITY IN KANSAS.

From The Kansas City Journal.

"Speaking of prosperity items," remarked a Rice County man, "they're so common out with us that we pay no more attention to them than we do to the blackbirds. I'll just give you an instance! An old farmer come into town last week and asked me if I could recommend him to the best man to repair little things. I asked him what he wanted and he pulled out a wallet that looked as if it had been filled with a patent sausage stuffer.

"'Well' he said, 'this d—d pocketbook has busted on me, and I'm looking for some man who can put it together so that it will be neat and substantial. The way it is now it won't hold my money. It was a good pocketbook, but when you try to stuff two or three thousand dollars into it it won't hold.'"

TOASTS.

IMPORTANT ROLE WHICH THEY PLAY IN CONTEMPORARY POLITICS.

It speaks well for the sobriety of the present epoch that post-prandial oratory should have become one of the principal instruments of statecraft. After-dinner speeches are nowadays selected by rulers and their Cabinet Ministers as the means of making the most momentous announcements. The final conclusion of the treaty of alliance between Russia and France, which is destined to play so weighty a role in the history of the world, was proclaimed by the Czar and President Faure in the course of the toasts which they addressed to one another before rising from a succulent repast on board the flagship Pothuau, while on every November 9 the attention of the statesmen and politicians throughout the civilized world is concentrated upon the Lord Mayor of London's inaugural banquet owing to the practice of the Prime Ministers of the British Empire to reserve for that particular occasion their most important utterances of the entire year concerning the foreign policy of England.

It is a custom which, far from calling for criticism or ridicule, merits on the contrary commendation. For no matter how temperate, men are likely to take a more genial and kindly view of things toward the close of a good dinner than when their stomachs are empty; nor is the atmosphere of conviviality which prevails at such times without a softening influence upon any tendency that there may be to aggressiveness and animosity. Indeed, it may be questioned whether the maintenance of peace between the civilized Powers of the world during the twenty-seven years which have elapsed since the Franco-Prussian War of 1870 is not attributable in a great measure to the part played in modern statecraft by after-dinner speeches.

CLEARLY THOUGHT OUT.

It must not, however, be gathered from this that these post-prandial political utterances are spoken on the spur of the moment, or that the sentiments expressed are wholly due to the promptings of a contented digestion. With the exception of Emperor William there is not a ruler or statesman who delivers speeches of this character without mature reflection and preparation. Thus all the toasts of the present Czar since his accession have been read by him from a slip of paper, and the terms employed therein have been invariably well weighed and discussed beforehand, usually with his Foreign Minister. That may serve to explain why they are so brief and formal in tone, conveying the impression that Nicholas is anxious not to say a word beyond what is absolutely necessary. It accounts, too, for the anger which he manifested last year when he found that the text of the toast which he pronounced at Breslau on the occasion of his visit to Emperor William had been altered by German Court dignitaries in a more friendly sense to their Kaiser before they issued the official version thereof to the press agencies for publication. It is doubtful whether Nicholas has ever really forgiven this almost incredible piece of deceit practised at his expense with the manifest object of diminishing the warmth of the welcome which he was to receive a few weeks later in Paris. The trick was subsequently laid bare during the course of the trial of Police Commissioner von Tausch and of his titled press agents at Berlin.

FRENCH THE LANGUAGE USED.

It is precisely with the object of avoiding any possible misinterpretation or distortion that the Czar invariably uses the language of diplomacy, namely, French, in delivering his post-prandial toasts, and his example in this respect is followed by every other European sovereign except Emperor William. Indeed, King Humbert, who speaks just as perfect German as the Kaiser himself, made a point last week at Homburg of responding in precise, brief and formal French to the fulsome and long-drawn-out German eloquence of his Teuton host and ally. And when old Francis Joseph of Austria visited St. Petersburg last spring all his after-dinner utterances were couched in the Gallic tongue, although he is just as proficient in Russian as Nicholas is in German.

Emperor William declines, however, to be bound by this rule with regard to the use of French, and when at St. Petersburg last month disconcerted both his Imperial host and all present while responding to the chillingly cold short French toast of the Muscovite Autocrat in an extraordinary oration of considerable length, spoken half in German and half in Russian, and during the course of which he made use of extravagant expressions of subserviency, describing himself as "laying at the feet" of his Imperial host, not only his "most humble thanks" for the reception accorded to him, but also a "most sacred vow" to assist him in preserving the peace of Europe. It was a subserviency that recalled to all present the ante-Bismarckian era, when Prussia was in everything but name a mere vassal of Russia, nothing being ventured upon at Berlin before sanction had been obtained from Czar Nicholas I, who treated not only his brother-in-law, King Frederick William IV of Prussia, but also the latter's statesmen and generals with the most unmitigated contempt, rating them soundly and in his most imperious manner whenever they happened to do anything contrary to his wishes.

THE KAISER'S SPEECHES.

These extraordinary expressions employed by Emperor William in toasting the Czar at St. Petersburg have excited the utmost indignation